

## **REMARKS**

Favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

### **I. CLAIM STATUS AND AMENDMENTS**

Claims 1-3 and 5-12 were pending in this application when last examined. The Examiner is respectfully requested to indicate the status of the claims in the next Office Action.

Claims 1-3 and 10-12 were examined on the merits and stand rejected.

Claims 5-9 were withdrawn. Applicants respectfully request rejoinder of the withdrawn claims upon allowance of the claims under examination.

Claim 1 is amended to recite "isolated". Support for this amendment can be found throughout the specification as filed. Claim 1 is further amended to recite "wherein the isolated immaturable unialgal culture strain does not mature after storage or continuous culturing for three years" in order to clarify the claimed invention. Support for this amendment can be found in paragraph [0019] of the specification as filed.

No new matter has been added.

### **II. 35 U.S.C. § 101 REJECTION**

In items 4-5 on pages 2-4 of the Office Action, claims 1-3 and 10-12 were again rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. Applicants respectfully suggest that this rejection is overcome, as applied to the amended claims, for reasons which are self-evident.

### **III. ANTICIPATION/OBVIOUSNESS REJECTION**

In items 10-14 on pages 5-7 of the Office Action, claims 1-3 and 10-12 were again rejected under 35 U.S.C. § 102(b) as anticipated by Hirotaka et al. or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Hirotaka (2000) in view of Hirotaka (2001).

Applicants respectfully traverse this rejection as applied to the amended claims.

Applicants note that in order to expedite prosecution and without acquiescence to the correctness of the Office's position, claim 1 has been amended to recite "isolated" and to recite

“wherein the isolated immaturable unialgal culture strain does not mature after storage or continuous culturing for three years”.

Thus, Applicants note that the claimed invention is directed towards an immaturable unialgal culture strain that does not mature after three years of continuous culturing or storage. The cited references fail to teach or suggest such a unialgal culture strain. In particular, as shown in the attached Declaration, it is noted that the unialgal culture strain disclosed in Hirotaka (2000) and Hirotaka (2001) is the same as the unialgal culture strain used in Comparative Example 1. As shown in the specification and attached Declaration, such unialgal culture strain matured within twelve weeks. A person of skill in the art understands that alga generally wither after maturation and therefore the unialgal culture strain of the cited references is not suitable for long-term culture and storage.

As the Examiner may not be aware, Mr. Hirotaka Kakita and Dr. Hiroshi Kamishima are each an inventor of the present application, and each is a co-author of the cited references, i.e. Hirotaka (2000) and Hirotaka (2001). Hirotaka (2001) is a reviewing report of a series of experimental works directed to the effect of Muroto deep sea water on the growth of red alga, including the experimental report in Hirotaka (2000). Therefore, Mr. Kakita and Mr. Kamishima well understand the significance of the series of the works. According to the attached Declaration by Mr. Kakita, the unialgal culture strain used in Comparative Example 1 of the present specification is the same as those disclosed in the cited references, i.e. Hirotaka (2000) and Hirotaka (2001). As noted in the data presented in the Declaration, the unialgal culture strain of these references matures in 12 weeks. Thus, such strain does not have the same properties as the claimed strain. Thus, the above-noted rejections are untenable.

Further, in the Final Office Action paragraph 12, the Examiner alleges that Hirotaka (2001) teaches continuous cultivation of a unialgal culture strain as a stock unialgal culture strain, making reference to the passage from the English translation of the IPRP (page 4, lines 3-1 from the bottom). As noted in the Declaration, “continuous cultivation” described in Hirotaka (2001) means a so-called “stock culture” which is a standard technique for preparing a unialgal culture strain for use in evaluation tests. Such corresponds to steps (3) and (4) in paragraphs [0048] and [0049] of the present specification. Further cultivation from the obtained unialgal culture strain as stated in the English translation of the IPRP is not practical since it takes about

200 days to obtain a unialgal culture strain [see the steps (1)-(4) in Example 2 of the present specification].

In turn, cultivation tests of the unialgal culture strains are shown in the paragraphs [0050]-[0059] of the present specification as well as in the attached Declaration. The unialgal culture strain of Comparative Example 1 matured in 12 weeks while that of the claimed invention did not mature even after 3 years from the initiation of the cultivation. Since algae are generally withered after maturation (see [0006]), it is clear that the strains of the present invention are storable for a much longer time than strains of the cited references, i.e. that of Comparative Example 1. Mr. Kakita has reported to us that the strains of the claimed invention are still alive continuing its growth under nutrition and that the alga body obtained thereby is ready for evaluation tests anytime by cutting off the necessary portion from the alga body. Here, attention is directed to the evaluation test on nutritional-salt absorbing ability in [0071], [0072] and Table 8 of the present specification and the attached Declaration. Marine macroalgae grow up absorbing nutritional salts such as nitrate nitrogen. Accordingly, since the fact that the inventive strain had kept for 3 years absorbing 0.4 mg of nitrate nitrogen/g of marine alga wet mass/day means that the inventive strain had kept absorbing nutrition to grow for 3 years, Table 8 shows that the inventive strain is of "sustainable growth without maturity". Moreover, the maximum amount thereof is larger than that of the strains of Comparative Examples. Please also see Industrial Applicability of the present specification that discloses the advantages of using the culture strain of the claimed invention.

Lastly, the Applicants would like to draw the Examiner's attention to the fact that the unialgal strain of the claimed invention has a characteristic of "sustainable growth without maturity" as understood from the results shown in Tables 4 and 8 of the present specification. The strain does not wither but continues growing because it does not mature so that it can be storable for a long-term.

Thus, for the above-noted reasons and in view of the attached Declaration, this rejection is untenable and should be withdrawn.

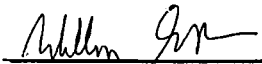
**CONCLUSION**

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and early notice to that effect is hereby requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact the undersigned attorney at the telephone number below.

Respectfully submitted,

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**ATTACHMENTS**

A. Declaration by Dr. Hirotaka Kakita